CDM

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Mr. Paul Peronard, U.S. Environmental Protection Agency
Libby Asbestos Site Team Leader

Ms. Katherine Hernandez, U.S. Environmental Protection Agency
Remedial Project Manager

Mr. Mark Raney, John A. Volpe Center National Transportation Systems Center
Task Order Contracting Officer's Technical Representative

Subject: Revised Draft Final Data Gap Analysis for Potential Contaminated Media, Former Stimson Lumber Site, Operable Unit 5

Dear Mr. Peronard, Ms. Hernandez, and Mr. Raney:

The purpose of this letter is to present data gaps between investigations already conducted and information needed to support a risk assessment and remedial investigation (RI) specific to the Stimson Lumber Site, Operable Unit (OU) 5. The data gaps were determined by reviewing all existing data for the site as presented in the Data Summary Report (DSR) for OU5 and comparing the data set to the conceptual site model (CSM), Figure 1. It is recommended that the data gaps identified and discussed be addressed as part of completing the risk assessment and RI for OU5.

In addition to the data gaps discussed in this analysis, an initial soils data gap analysis was previously completed for OU5. A sampling and analysis plan was developed to gather soil data required to fill the initial soil data gap identified. The majority of the soil sampling effort was completed in October 2007 with only sampling remaining at the expanded landfarm. Soil sampling at the expanded landfarm is expected to be completed in the summer in 2008. A second site-wide soil sampling event was conducted in June of 2008 using current site protocols that were not in place during the site-wide sampling that occurred in 2002.

In addition to the October 2007 soil sampling event, a sampling and analysis plan was also developed to evaluate Libby amphibole asbestos (LA) exposures during high end disturbance activities in vacant and occupied buildings at the site. This sampling program also include the collection of settled dust samples Buildings at the site were sampled in late 2007 and early 2008.

The CSM for OU5 (Figure 1) identifies several potential exposure pathways resulting in nine contaminated media of concern:

- Outdoor air near structural fire location
- Air in attic or near other unenclosed vermiculite
- Indoor air near breached walls
- Outdoor air near roads and rail spurs within OU5
- Indoor air (on-site buildings)
- Dust in air of vehicles
- Outdoor air near disturbed soil, wood chip piles, and waste bark piles
- General (ambient) outdoor air
- Dust in air from disturbances of roofing or other outdoor surfaces

This memorandum is organized to identify data gaps by the nine media of concern.

Outdoor Air near Structural Fire Location

Outdoor air near structural fire locations has not been evaluated specific to potential exposures at OU5. All bulk vermiculite insulation has been removed from all on-site buildings. It is suspected that only remnants of vermiculite insulsation remain in the walls of the central maintenance building. Thus, sources for this pathway are currently thought to be limited at the site, and therefore additional sample collection to evaluate this media of concern specific to OU5 are not warranted at this time.

Air in Attic or near Other Unenclosed Vermiculite

Air in attics or near other unenclosed areas of vermiculite has not been evaluated specific to potential exposures at OU5. As mentioned above, the only vermiculite insulation at the site are remnants that remain in the walls of the central maintenance building. Thus, sources for this pathway are currently thought to be limited at the site, and therefore additional sample collection to evaluate this media of concern specific to OU5 are not warranted at this time. The pathway analysis for this media of concern should be considered complete but minor for OU5. Acceptance of this analysis will require a change in the attached CSM.

Indoor Air near Breached Walls

Indoor air near breached walls has not been evaluated specific to potential exposures at OU5.The only vermiculite insulation at the site is remnants that remain in the walls of the central maintenance building. Thus, sources for this pathway are currently thought to be limited at the site to the central maintenance building. Additional sample collection to evaluate this media of concern could be

conducted as part of OU4 investigation activities. Indoor activity-based sampling (ABS) air sampling conducted in the central maintenance building the last week of December 2007 will also help evaluate this exposure pathway, as vermiculite has been observed leaking from a portion of the wall within this building.

Outdoor Air near Roads and Rail Spurs within OU5

Outdoor air near roads and rail spurs within OU5 has not been evaluated specific to potential exposures at OU5. The roads and rail spurs within OU5 are currently used daily, and therefore exposure to this media of concern is ongoing at the site. Additional sampling should be considered to evaluate this media of concern specific to OU5.

Indoor Air (On-Site Buildings)

Indoor air has been evaluated in a past sampling event using personal and stationary (indoor and outdoor) air monitoring in 2002. This information is summarized in the Final DSR for OU5 (CDM 2007). Because the use and/or configuration of many of the site buildings has changed since the 2002 sampling event was conducted, an indoor air sampling program was designed and implemented in late 2007/early 2008 by EPA to collected information related to this media of concern. Therefore, additional sample collection to evaluate this media of concern specific to OU5 are not warranted at this time.

Dust in Air of Vehicles

Air in vehicles has not been evaluated specific to potential exposures at OU5. Exposure to this media of concern is likely and therefore sampling to evaluate this specific media of concern should be considered either specific to OU5 or in conjunction with studies related to other operable units.

Outdoor Air near Disturbed Soil, Wood Chip Piles, and Waste Bark Piles

Outdoor air near disturbed soils is a media of concern that has been evaluated with a limited sampling effort at OU5. In 2005, two locations within OU5 were sampled as part of the Remedial Investigation Supplemental Quality Assuracne Project Plan (SQAPP) sampling activities. During this event, one location with trace amounts of LA and one location with non-detect levels of LA were included in an ABS sampling activity. To supplement this data set it is recommended that the current data being generate from the OU4 outdoor ABS activities be used as a surrogate data source for this exposure pathway. In addition, ABS activities are currently planned for the BMX track area within OU6. Also a general work ABS and recreational ABS program are currently being developed to supplement the current ABS data available for the site.

Outdoor air near disturbed wood chip and waste bark piles was evaluated as described in the current initial soils gap SAP. The initial soil data gap SAP called for the collection of personal air samples from the excavator operator and the sample collection personnel. Therefore, additional sample collection to evaluate this media of concern specific to OU5 are not warranted at this time.

General Outdoor Ambient Air

Information from the current outdoor ambient air program, initiated in October 2006 and scheduled to be completed in October 2008, will fill the data gap for determining outdoor ambient air exposures. Therefore, additional sample collection is not recommended specific to this data gap.

Dust in Air near Disturbances of Roofing or Other Outdoor Surfaces

Air near disturbances of roofing or other outdoor surface has not been completed specific to OU5. Exposure to this media of concern is likely and therefore sampling to evaluate this specific media of concern should be considered either specific to OU5 or in conjunction with studies related to other operable units.

Summary

The following table summarizes each of the nine media of concern discussed above and indicates if a data gap currently exists specific to OU5 for each media.

Media of Concern	Current Data Sufficient to Determine Exposure (Yes/No)	Additional Sampling Recommended (Yes/No)	Comments
Outdoor air near structural fire location	No	No	Source of media limited within OU5
Air in attic or near other unenclosed vermiculite	No	No	Source of media limited within OU5
Indoor air near breached walls	No	No	Source of media limited within OU5, an current data are sufficient
Outdoor air near roads and rail spurs within OU5	No	Yes	
Indoor air (on-site buildings)	Yes	No	
Dust in air of vehicles	No	Yes	
Outdoor air near disturbed soil, wood chip piles, and waste bark pil	No	Yes	Additional ABS programs are currently being designed to complete collection of data specific to BMX, general worker, and recreational users at the site
General (ambient) outdoor air	Yes	No	
Dust in air from disturbances of roofing or other outdoor surfaces	No	Yes	

The data gap analysis of OU5 will not be developed further than this version. Any additional data gaps will be identified during the risk assessment, remedial investigation, and/or feasibility study.

If you have any questions or concerns, please feel free to contact me at (720) 264-1121.

Very truly yours,

Dee Warren

Dee Warren
CDM Federal Programs Corporation

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Sources

Release and Transport Pathways

Contaminated Media

Receptor and Exposure Location (Current and Hypothetical Future)

Commercial Worker		Tradesperson		Recreational Visitor		Resident
Current	Future	Current	Future	Current	Future	Future

Mine site

Stockpiling and staging for distribution

Vermiculite and/or Vermiculite Concentrate and/or Mine Waste

Product (vermiculite)

Spills

Indoor insulation

Spillage along highways, rail lines

Banks of Libby Creek adjacent to OU5

Surface water runoff

Outdoor surface soil (and subsurface soil if disturbed)

Deposition

Historic and current airborne releases

Structural fires

Transfer via clothing/shoes

Transfer via clothing/shoes

Transfer via clothing/shoes

Airborne release

Airborne release

Airborne release

Airborne release

Deposition

Deposition

Deposition

Deposition

Deposition

Burning

Airborne release

Deposition

Deposition

Deposition

Wood Chip and Waste Bark Piles

Tree bark (multiple OUs)

Ash (multiple OUs)

Building roofs and surfaces

Unenclosed (onsite building) (e.g., attic spaces, crawl spaces, etc.)

Enclosed (onsite building) (e.g., walls)

Contaminated soil along roads and rail spurs in OU5

Indoor dust (onsite building)

Deposition *Airborne release*

carpeting, interior furnishings

Airborne release *Mixing*

Dust in vehicles

Outdoor air near fire location

Air in attic or near other unenclosed vermiculite

Indoor air near breached walls

Outdoor air near highways and rail lines

Indoor air (onsite building)

Dust in air of vehicles

Outdoor air near disturbed soil, wood chip piles, and waste bark

General (ambient) outdoor air

Inhalation of dust in air from disturbances of roofing or other outdoor surfaces

	Commercial Worker Current	Commercial Worker Future	Tradesperson Current	Tradesperson Future	Recreational Visitor Current	Recreational Visitor Future	Resident Future
Outdoor air near fire location	?	?	?	?	?	?	?
Air in attic or near other unenclosed vermiculite	●	●	●	●			
Indoor air near breached walls	●	●	●	●			
Outdoor air near highways and rail lines	●	●	●	●			
Indoor air (onsite building)	●	●	?	?			●
Dust in air of vehicles	?	?	?	?	?	?	?
Outdoor air near disturbed soil, wood chip piles, and waste bark	●	●	●	●	●	●	●
General (ambient) outdoor air	●	●	●	●	●	●	●
Inhalation of dust in air from disturbances of roofing or other outdoor surfaces	?	?	?	?			

KEY

●	Pathway is complete and exposure may be significant; quantitative evaluation is warranted
O	Pathway is complete but is believed to be minor in comparison to other pathways; qualitative evaluation is warranted
?	Pathway may be complete but magnitude of exposure is uncertain; further investigation may be necessary
	Pathway is incomplete or believed to be negligible; further evaluation is not warranted

Figure 1
CONCEPTUAL SITE MODEL FOR INHALATION EXPOSURES TO ASBESTOS
Stimson Lumber Company, OU5

Libby Asbestos Project
Libby, Montana

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